—OR^{51}, —SR^{52}, —CO_2R^{53}, —$OCOR^{54}$, —$NR^{55}R^{56}$, —$CONR^{57}R^{58}$, —SO_2R^{59}, —$SO_2NR^{60}R^{61}$, —$NR^{62}CONR^{63}R^{64}$, —$NR^{65}CO_2R^{66}$, —COR^{67}, —$NR^{68}COR^{69}$ or —$NR^{70}SO_2R^{71}$, and R^{51}, R^{52}, R^{53}, R^{54}, R^{55}, R^{56}, R^{57}, R^{58}, R^{59}, R^{60}, R^{61}, R^{62}, R^{63}, R^{64}, R^{65}, R^{66}, R^{67}, R^{68}, R^{69}, R^{70} and R^{71} each represents independently a hydrogen atom, aliphatic group or aromatic group; wherein R^2 and R^3, R^3 and R^4, R^4 and R^5, R^5 and R^6, or R^6 and R^7 may be mutually bound to form a ring; wherein X and Y each represents independently $C(R^8)$= or N=, R^8 represents a hydrogen atom, aliphatic group or aromatic group, either X or Y shall represent N=, and X and Y shall not be simultaneously —N=; and wherein the formula (1) satisfies at least one of following (i) to (v):

[0015] (i) A represents —NR^4R^5, R^4 and R^5 each represents independently a C_{1-18} alkyl group having a substituent group, the substituent group is at least one member selected from the group consisting of a heterocyclic group, cyano, —OR^{141}, —SR^{142}, —CO_2R^{143}, —$OCOR^{144}$, —$NR^{145}R^{146}$, —$CONR^{147}R^{148}$, —SO_2R^{149}, —$SO_2NR^{150}R^{151}$, —$NR^{152}CONR^{153}R^{154}$, —$NR^{155}CO_2R^{156}$, —$COR^{157}$, —$NR^{158}COR^{159}$ and —$NR^{160}SO_2R^{161}$, and R^{141}, R^{142}, R^{143}, R^{144}, R^{145}, R^{146}, R^{147}, R^{148}, R^{149}, R^{150}, R^{151}, R^{152}, R^{153}, R^{154}, R^{155}, R^{156}, R^{157}, R^{158}, R^{159}, R^{160} and R^{161} each represents independently a hydrogen atom, aliphatic group or aromatic group;

[0016] (ii) R^2 represents a substituted alkyl group;

[0017] (ii)' R^7 represents a substituted alkyl group;

[0018] (iii) R^8 represents an aryl group having 2 or more substituent groups;

[0019] (iv) Two or more substituent groups represented by —$NR^{170}SO_2R^{171}$ are present in the molecule, and R^{170} and R^{171} each represents independently a hydrogen atom, aliphatic group or aromatic group; and

[0020] (v) One or more carboxyl groups are present in the molecule.

[0021] In a second aspect of the present invention, there is provided a coloring composition, said coloring composition comprising a dispersion medium and coloring particulates comprising a polymer which is selected from the group consisting of polyurethanes, polyesters, polyamides, polyureas and polycarbonates; and an oil-soluble dye represented by said formula (1).

[0022] In a third aspect of the present invention, there is provided an ink jet recording method, said method comprising the steps of (a) preparing an ink for an ink jet and (b) using the ink for recording in an ink-jet printing device, wherein the ink comprising a coloring composition comprising a dispersion medium and coloring particulates containing a polymer selected from the group consisting of polyurethanes, polyesters, polyamides, polyureas and polycarbonates; and an oil-soluble dye represented by said formula (1).

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0023] The coloring composition, the ink for an ink jet, and the ink jet recording method of the present invention will be described hereinafter.

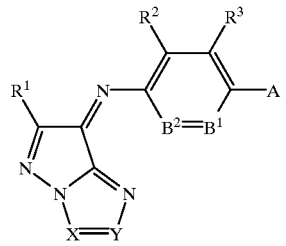
Coloring Composition

[0024] The coloring composition of the present invention comprises coloring particulates containing an oil-soluble dye and a polymer dispersed in a dispersion medium. The dispersion medium is preferably a water-based medium. The water-based medium means a liquid containing at least water.

Oil-soluble Dye

[0025] The oil-soluble dye is preferably a compound represented by formula (1).

Formula (1)



[0026] In the formula (1) above, R^1 represents a hydrogen atom, aliphatic group, aromatic group, heterocyclic group, cyano, —OR^{11}, —SR^{12}, —CO_2R^{13}, —$OCOR^{14}$, —$NR^{15}R^{16}$, —$CONR^{17}R^{18}$, —SO_2R^{19}, —$SO_2NR^{20}R^{21}$, —$NR^{22}CONR^{23}R^{24}$, —$NR^{25}CO_2R^{26}$, —COR^{27}, —$NR^{28}COR^{29}$ or —$NR^{30}SO_2R^{31}$; and R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}, R^{23}, R^{24}, R^{25}, R^{26}, R^{27}, R^{28}, R^{29}, R^{30} and R^{31} each represents independently a hydrogen atom, aliphatic group or aromatic group.

[0027] In particular, R^1 is preferably a hydrogen atom, aliphatic group, aromatic group, —OR^{11}, —SR^{12}, —$NR^{15}R^{16}$, —SO_2R^{19}, —$NR^{22}CONR^{23}R^{24}$, —$NR^{25}CO_2R^{26}$, —$NR^{28}COR^{29}$ or —$NR^{30}SO_2R^{31}$, more preferably a hydrogen atom, aliphatic group, aromatic group, —OR^{11} or —$NR^{15}R^{16}$, further preferably a hydrogen atom, alkyl group, substituted alkyl group, aryl group, substituted aryl group, alkoxy group, substituted alkoxy group, phenoxy group, substituted phenoxy group, dialkyl anino group or substituted dialkyl amino group, particularly preferably a hydrogen atom, C_{1-10} alkyl group, C_{1-10} substituted alkyl group, C_{6-10} aryl group or C_{6-10} substituted aryl group, most preferably a hydrogen atom, C_{1-6} alkyl group or C_{1-6} substituted alkyl group.

[0028] The aliphatic group includes an alkyl group, substituted alkyl group, alkenyl group, substituted alkenyl group, alkynyl group, substituted alkynyl group, aralkyl group and substituted aralkyl group.

[0029] The alkyl group may be straight-chain or branched one or may have formed a ring. The number of carbon atoms in the alkyl group is preferably 1 to 20, more preferably 1 to 18.